

UN225

Transistor array to drive the small motor

Features

- Small and lightweight
- Low power consumption (low $V_{CE(sat)}$ transistor used)
- Low-voltage drive
- With 8 elements incorporated (SO-16)

Applications

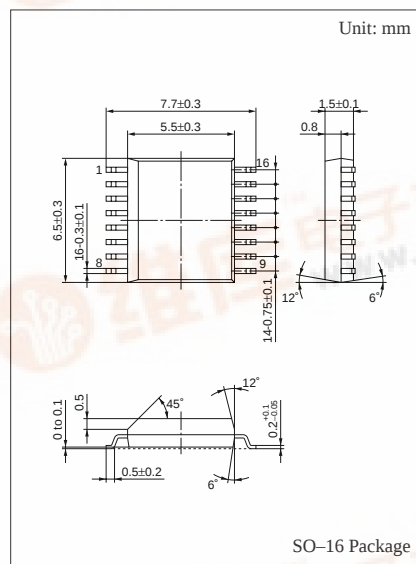
- Video cameras
- Cameras
- Portable CD players
- Small motor drive circuits in general for electronic equipment.

Absolute Maximum Ratings ($T_a=25\pm 2^\circ\text{C}$)

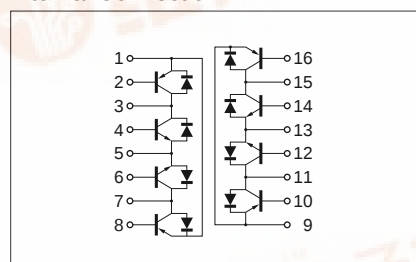
Parameter	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	± 10	V
Collector to emitter voltage	V_{CEO}	± 10	V
Emitter to base voltage	V_{EBO}	± 7	V
Collector current	I_C	± 0.5	A
Total power dissipation	P_T^*	0.5	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to $+150$	$^\circ\text{C}$

Note: $\pm$ marks used above: +: NPN part, -: PNP part

* $T_C = 25^\circ\text{C}$ only when the elements are active



Internal Connection

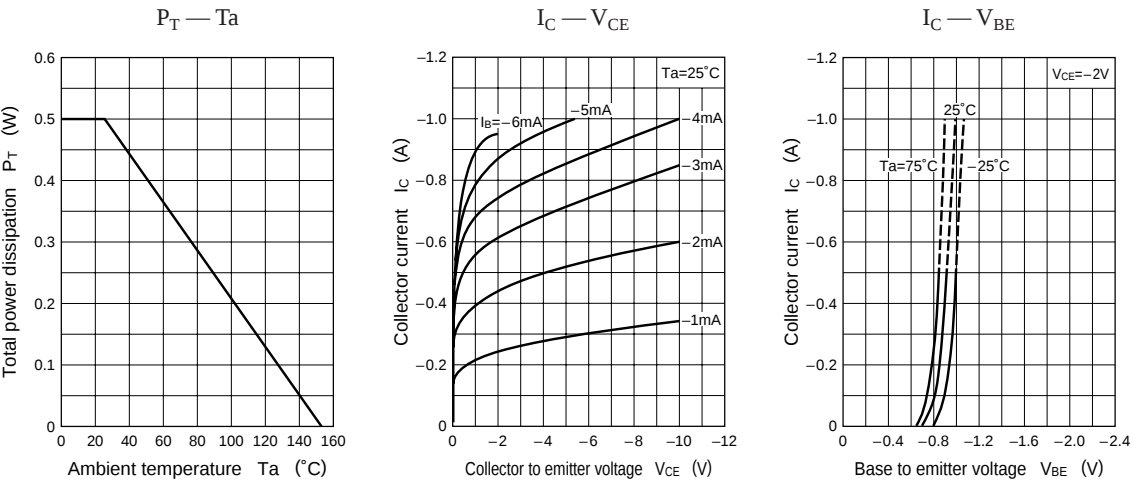


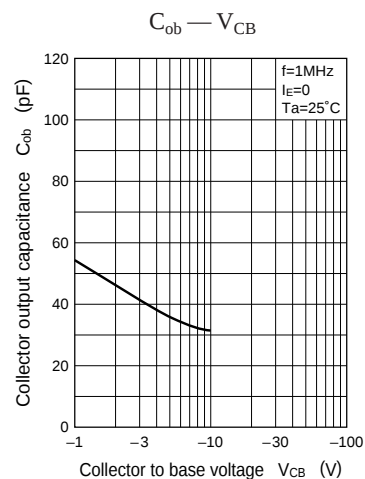
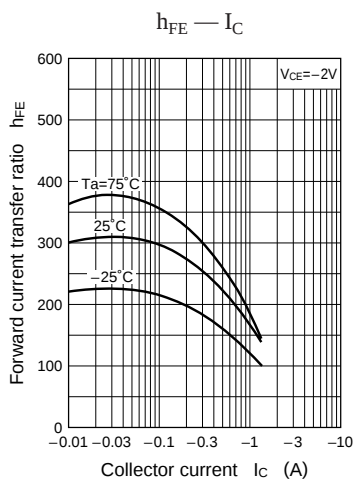
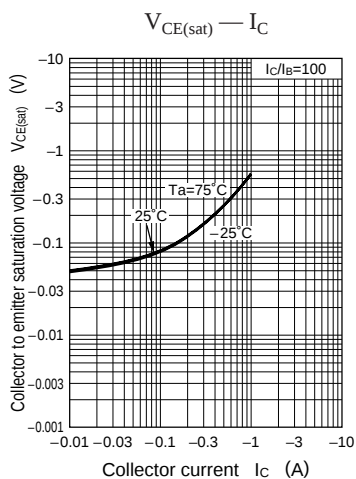
■ Electrical Characteristics (Ta=25±2°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	(NPN) $V_{CB} = 7V$			1	μA
		(PNP) $V_{CB} = -7V$			-1	
Collector to base voltage	V_{CBO}	(NPN) $I_C = 10\mu A$	10			V
		(PNP) $I_C = -10\mu A$	-10			
Collector to emitter voltage	V_{CEO}	(NPN) $I_C = 1mA$	10			V
		(PNP) $I_C = -1mA$	-10			
Emitter to base voltage	V_{EBO}	(NPN) $I_E = 10\mu A$	7			V
		(PNP) $I_E = -10\mu A$	-7			
Forward current transfer ratio	h_{FE}	(NPN) $V_{CE} = 2V, I_C = 0.2A^*$	200		800	
		(PNP) $V_{CE} = -2V, I_C = -0.2A^*$	200		800	
Collector to emitter saturation voltage	$V_{CE(sat)1}$	(NPN) $I_C = 0.2A, I_B = 2mA$			0.2	V
		(PNP) $I_C = -0.2A, I_B = -2mA$			-0.2	
Transition frequency	f_T	(NPN) $V_{CB} = 6V, I_E = -50mA, f = 200MHz$		120		MHz
		(PNP) $V_{CB} = -6V, I_E = 50mA, f = 200MHz$		120		
Collector output capacitance	C_{ob}	(NPN) $V_{CB} = 6V, I_E = 0, f = 1MHz$		25		pF
		(PNP) $V_{CB} = -6V, I_E = 0, f = 1MHz$		35		
Forward voltage (DC)	V_F	(NPN) $I_F = 0.5A$			1.3	V
		(PNP) $I_F = -0.5A$			-1.3	

*Pulse measurement

Characteristics charts of PNP transistor block





Characteristics charts of NPN transistor block

